Full wwPDB X-ray Structure Validation Report (i)

Aug 22, 2023 – 10:53 AM EDT

PDB ID	:	2R00
Title	:	crystal structure of aspartate semialdehyde dehydrogenase II complexed with ASA from vibrio cholerae
Authors	:	Viola, R.E.; Liu, X.; Ohren, J.F.; Faehnle, C.R.
Deposited on	:	2007-08-17
Resolution	:	2.03 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (i)) were used in the production of this report:

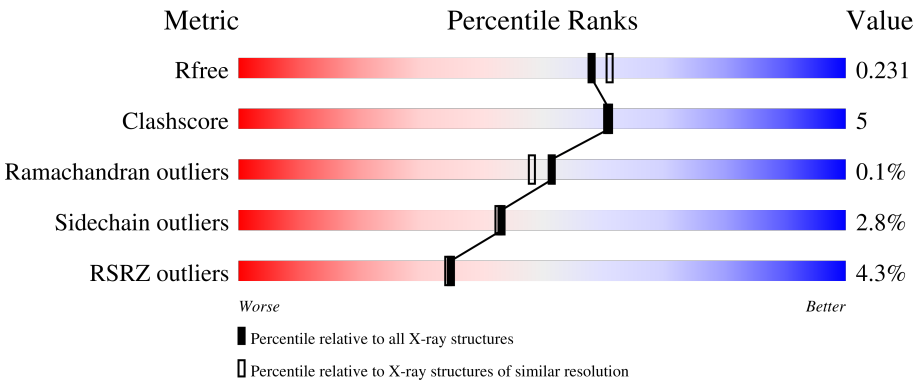
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.03 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	10434 (2.04-2.00)
Clashscore	141614	11643 (2.04-2.00)
Ramachandran outliers	138981	11493 (2.04-2.00)
Sidechain outliers	138945	11492 (2.04-2.00)
RSRZ outliers	127900	10220 (2.04-2.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	336	4% 78% 11% • 9%
1	B	336	5% 81% 9% 10%
2	C	336	3% 92% 7% •

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	OEG	C	1	-	-	X	-

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 7992 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

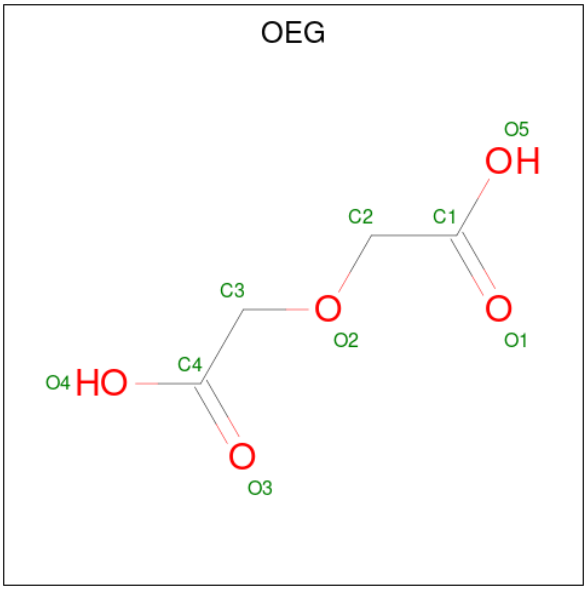
- Molecule 1 is a protein called Aspartate-semialdehyde dehydrogenase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	306	2389	1510	409	460	10	0	2	0
1	B	302	2370	1506	399	454	11	0	0	0

- Molecule 2 is a protein called Aspartate-semialdehyde dehydrogenase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	C	336	2624	1658	446	509	11	0	3	0

- Molecule 3 is 2,2'-oxydiacetic acid (three-letter code: OEG) (formula: $C_4H_6O_5$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
3	C	1	9	4	5	0	0

- Molecule 4 is water.

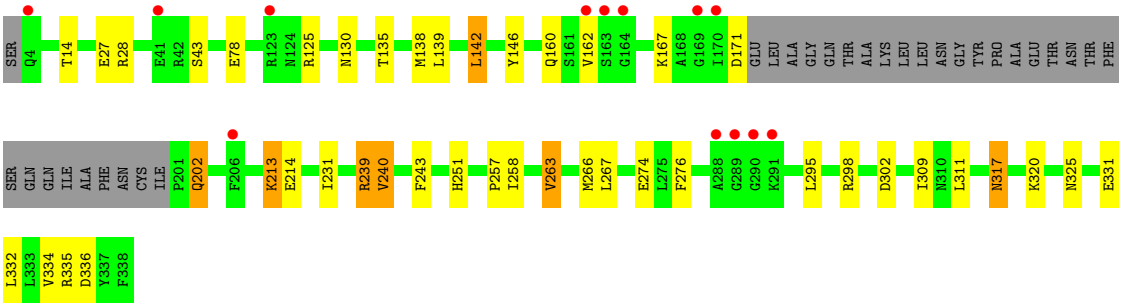
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	O		
4	A	186	186	186	0	0
			Total	O		
4	B	177	177	177	0	0
			Total	O		
4	C	237	237	237	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

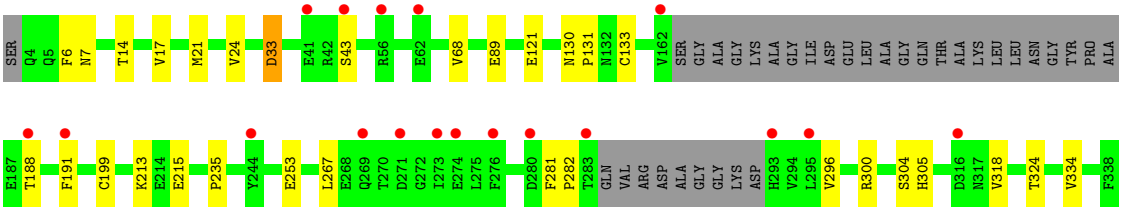
• Molecule 1: Aspartate-semialdehyde dehydrogenase

Chain A:



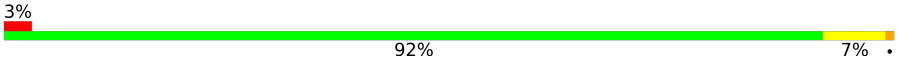
• Molecule 1: Aspartate-semialdehyde dehydrogenase

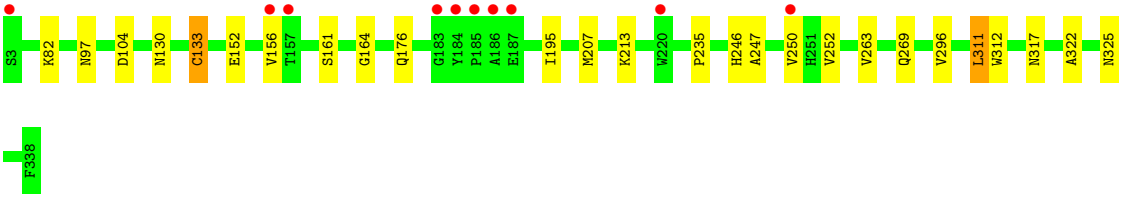
Chain B:



• Molecule 2: Aspartate-semialdehyde dehydrogenase

Chain C:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	122.38Å 84.68Å 114.98Å 90.00° 102.07° 90.00°	Depositor
Resolution (Å)	40.00 – 2.03 33.82 – 2.03	Depositor EDS
% Data completeness (in resolution range)	99.4 (40.00-2.03) 99.4 (33.82-2.03)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.05	Depositor
$< I/\sigma(I) >$ [1]	3.19 (at 2.03Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.191 , 0.232 0.191 , 0.231	Depositor DCC
R_{free} test set	3747 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	28.3	Xtriage
Anisotropy	0.023	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 53.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	7992	wwPDB-VP
Average B, all atoms (Å^2)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.53% of the height of the origin peak. No significant pseudotranslation is detected.*

[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: OEG, HTI

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\|>5$	RMSZ	$\#\|Z\|>5$
1	A	0.81	2/2448 (0.1%)	0.74	2/3328 (0.1%)
1	B	0.46	0/2419	0.57	0/3291
2	C	0.52	0/2667	0.61	1/3626 (0.0%)
All	All	0.61	2/7534 (0.0%)	0.64	3/10245 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	213	LYS	C-N	28.50	1.99	1.34
1	A	213	LYS	C-O	15.73	1.53	1.23

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	213	LYS	O-C-N	-21.29	88.64	122.70
1	A	213	LYS	CA-C-O	14.20	149.92	120.10
2	C	311	LEU	CA-CB-CG	6.22	129.61	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2389	0	2305	30	0
1	B	2370	0	2287	15	0
2	C	2624	0	2541	23	0
3	C	9	0	4	4	0
4	A	186	0	0	5	0
4	B	177	0	0	2	0
4	C	237	0	0	10	0
All	All	7992	0	7137	66	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

All (66) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:213:LYS:C	1:A:214:GLU:N	1.99	1.14
2:C:97:ASN:HD21	3:C:1:OEG:H2	1.24	0.99
2:C:97:ASN:ND2	3:C:1:OEG:H2	1.86	0.90
1:A:78[A]:GLU:OE2	4:A:515:HOH:O	1.98	0.81
3:C:1:OEG:O5	4:C:537:HOH:O	1.99	0.80
1:A:162:VAL:HA	1:A:239:ARG:HG2	1.64	0.79
1:A:135:THR:HG22	1:A:139:LEU:HD12	1.68	0.75
1:A:251:HIS:HE1	1:A:302:ASP:OD2	1.80	0.63
2:C:104:ASP:OD1	4:C:564:HOH:O	2.15	0.63
1:A:335:ARG:HD2	1:A:336:ASP:OD1	1.99	0.62
1:B:133:CYS:HB2	1:B:318:VAL:HG22	1.81	0.61
2:C:130:ASN:ND2	2:C:325:ASN:HD22	2.00	0.59
1:B:215:GLU:O	1:B:235:PRO:HG2	2.03	0.58
1:B:213:LYS:NZ	4:B:647:HOH:O	2.36	0.58
1:A:130:ASN:ND2	1:A:325:ASN:HD22	2.01	0.57
2:C:269:GLN:HG2	4:C:570:HOH:O	2.04	0.57
1:B:188:THR:HG23	1:B:191:PHE:H	1.70	0.57
1:A:125:ARG:NH1	4:A:413:HOH:O	2.35	0.57
1:B:17:VAL:O	1:B:21:MET:HG3	2.07	0.54
1:A:257:PRO:HG3	4:A:491:HOH:O	2.08	0.53
1:A:298:ARG:NH2	1:B:199:CYS:O	2.42	0.53
1:A:160:GLN:HG3	1:A:239:ARG:HE	1.74	0.53
1:B:17:VAL:HG13	4:B:596:HOH:O	2.09	0.53
1:A:162:VAL:HA	1:A:239:ARG:CG	2.37	0.51
2:C:133:HTI:HAJ2	4:C:536:HOH:O	2.09	0.51
4:A:515:HOH:O	2:C:207:MET:HE1	2.11	0.50
2:C:176:GLN:HE22	2:C:195:ILE:H	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:161:SER:H	2:C:246:HIS:HD2	1.61	0.49
2:C:322:ALA:HB2	4:C:539:HOH:O	2.13	0.49
1:A:138:MET:HG2	1:A:142:LEU:HD22	1.93	0.49
1:A:263:VAL:O	1:A:267:LEU:HG	2.13	0.48
1:A:317:ASN:HD22	1:A:317:ASN:C	2.16	0.48
2:C:317:ASN:ND2	4:C:536:HOH:O	2.44	0.47
1:A:78[B]:GLU:OE1	2:C:213:LYS:HE2	2.15	0.47
2:C:152[A]:GLU:HG3	4:C:557:HOH:O	2.13	0.47
1:B:6:PHE:CE2	1:B:334:VAL:HG13	2.49	0.47
2:C:247:ALA:HB1	2:C:312:TRP:CZ2	2.50	0.47
1:A:240:VAL:HG22	1:A:243:PHE:HB2	1.96	0.46
1:B:267:LEU:HD13	1:B:296:VAL:HG11	1.98	0.46
1:A:258:ILE:HD11	1:A:266:MET:CE	2.46	0.46
1:A:213:LYS:O	1:A:214:GLU:N	2.48	0.46
1:A:274:GLU:HG2	1:A:276:PHE:CE1	2.51	0.46
2:C:97:ASN:HD21	3:C:1:OEG:C2	2.12	0.46
1:B:14:THR:HG21	1:B:43:SER:HB3	1.97	0.45
1:A:317:ASN:ND2	1:A:320:LYS:H	2.14	0.45
2:C:246:HIS:CE1	4:C:536:HOH:O	2.69	0.45
2:C:130:ASN:HD21	2:C:325:ASN:HD22	1.63	0.45
1:A:14:THR:HG21	1:A:43:SER:HB3	1.98	0.45
2:C:164:GLY:HA2	4:C:536:HOH:O	2.17	0.44
1:B:24:VAL:HG11	1:B:324:THR:HA	1.99	0.44
1:B:253:GLU:OE2	1:B:305:HIS:NE2	2.43	0.43
2:C:161:SER:H	2:C:246:HIS:CD2	2.36	0.43
1:A:78[B]:GLU:HG3	2:C:207:MET:SD	2.58	0.43
2:C:250:VAL:HG12	2:C:252:VAL:HG13	2.00	0.43
1:A:27:GLU:HG3	4:A:447:HOH:O	2.17	0.43
1:A:28:ARG:HD3	1:A:331:GLU:OE1	2.19	0.43
2:C:156:VAL:O	2:C:235:PRO:HA	2.20	0.42
1:B:7:ASN:OD1	1:B:33:ASP:HB3	2.19	0.41
1:A:146:TYR:CE1	1:A:231:ILE:HD11	2.54	0.41
1:A:202:GLN:HE21	1:A:202:GLN:HB2	1.62	0.41
1:A:251:HIS:CE1	1:A:302:ASP:OD2	2.66	0.41
1:B:281:PHE:HA	1:B:282:PRO:C	2.41	0.41
2:C:133:HTI:HAH	4:C:539:HOH:O	2.21	0.40
1:B:130:ASN:HA	1:B:131:PRO:HD3	2.00	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	304/336 (90%)	299 (98%)	5 (2%)	0	100	100
1	B	296/336 (88%)	290 (98%)	5 (2%)	1 (0%)	41	36
2	C	334/336 (99%)	320 (96%)	14 (4%)	0	100	100
All	All	934/1008 (93%)	909 (97%)	24 (3%)	1 (0%)	51	48

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	33	ASP

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	254/280 (91%)	241 (95%)	13 (5%)	24	19
1	B	255/280 (91%)	250 (98%)	5 (2%)	55	57
2	C	278/279 (100%)	274 (99%)	4 (1%)	67	70
All	All	787/839 (94%)	765 (97%)	22 (3%)	43	43

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	142	LEU
1	A	167	LYS

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Mol	Chain	Res	Type
1	A	171	ASP
1	A	202	GLN
1	A	239	ARG
1	A	240	VAL
1	A	263	VAL
1	A	295	LEU
1	A	309	ILE
1	A	311	LEU
1	A	317	ASN
1	A	332	LEU
1	A	334	VAL
1	B	68	VAL
1	B	89	GLU
1	B	121	GLU
1	B	300	ARG
1	B	304	SER
2	C	82	LYS
2	C	263	VAL
2	C	296	VAL
2	C	311	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	130	ASN
1	A	202	GLN
1	A	251	HIS
1	A	317	ASN
1	B	67	GLN
1	B	97	ASN
1	B	130	ASN
1	B	194	GLN
1	B	325	ASN
2	C	130	ASN
2	C	155	ASN
2	C	176	GLN
2	C	194	GLN
2	C	234	ASN
2	C	246	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	HTI	C	133	2	8,13,14	2.15	1 (12%)	8,16,18	1.95	1 (12%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	HTI	C	133	2	-	1/11/15/17	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	133	HTI	CB-S	-5.66	1.76	1.82

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	133	HTI	CB-S-CAH	4.95	109.64	100.21

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	133	HTI	CAH-CAJ-CAK-CAM

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	133	HTI	2	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	OEG	C	1	-	8,8,8	1.40	0	9,9,9	2.01	2 (22%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	OEG	C	1	-	-	3/6/6/6	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	1	OEG	O2-C2-C1	4.23	118.84	110.23
3	C	1	OEG	C3-O2-C2	-3.51	106.42	112.72

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	1	OEG	O2-C3-C4-O3
3	C	1	OEG	O2-C3-C4-O4
3	C	1	OEG	C1-C2-O2-C3

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	1	OEG	4	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	213:LYS	C	214:GLU	N	1.99

6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	306/336 (91%)	0.21	13 (4%)	36	35	18, 31, 47, 65	0
1	B	302/336 (89%)	0.03	18 (5%)	21	21	18, 31, 57, 63	0
2	C	335/336 (99%)	-0.13	10 (2%)	50	50	14, 23, 36, 53	2 (0%)
All	All	943/1008 (93%)	0.03	41 (4%)	35	34	14, 28, 48, 65	2 (0%)

All (41) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	C	184	TYR	6.3
1	B	191	PHE	5.7
1	A	291	LYS	5.5
1	A	170	ILE	4.5
1	A	290	GLY	4.5
1	B	283	THR	4.1
2	C	3	SER	4.0
1	B	244	TYR	3.7
1	B	41	GLU	3.7
2	C	185	PRO	3.7
1	A	123	ARG	3.4
1	B	276	PHE	3.4
2	C	183	GLY	3.3
1	A	289	GLY	3.3
1	A	41	GLU	3.3
1	A	169	GLY	3.1
1	B	293	HIS	2.9
2	C	186	ALA	2.9
1	B	316	ASP	2.8
1	B	43	SER	2.7
1	A	288	ALA	2.7
1	B	273	ILE	2.6
1	B	162	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
1	A	164	GLY	2.5
1	B	271	ASP	2.5
2	C	187	GLU	2.4
2	C	156	VAL	2.3
1	A	4	GLN	2.3
1	B	188	THR	2.3
1	B	274	GLU	2.3
1	A	163	SER	2.3
1	B	280	ASP	2.2
1	A	162	VAL	2.1
1	B	269	GLN	2.1
1	B	62	GLU	2.1
2	C	250	VAL	2.1
1	B	295	LEU	2.0
2	C	157	THR	2.0
1	B	56	ARG	2.0
2	C	220	TRP	2.0
1	A	206	PHE	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	HTI	C	133	14/15	0.95	0.10	17,24,26,26	0

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	OEG	C	1	9/9	0.80	0.19	40,41,42,44	0

6.5 Other polymers (i)

There are no such residues in this entry.